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EXAMINER

CHERNYSHEV, OLGA N

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| ART UNIT | PAPER NUMBER |
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1646

DATE MAILED: 12/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/014,291

Applicant(s)

HORSTEN ET AL.

Examiner

Olga N. Chernyshev

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 August 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on August 06, 2004 has been entered.

Response to Amendment

2. Claims 2 and 6 have been amended as requested in the amendment filed on May 06, 2004. Claims 1-13 are pending in the instant application.

Claims 1-13 are under examination in the instant office action.

3. The Text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. Any objection or rejection of record, which is not expressly repeated in this action has been overcome by Applicant's response and withdrawn.

5. Applicant's arguments filed on May 06, 2004 have been fully considered but they are not deemed to be persuasive for the reasons set forth below.

Claim Rejections - 35 USC § 112

6. Claims 1, 3-6, 9 and 11-12, as amended, stand rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement for reasons of record in section

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6 of Paper No. 7 and in section 5 of Paper mailed on March 03, 2004. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Applicant traverses the rejection on the premises that the instant specification provides “multiple examples that contain specific criteria of behavioral and neurological adaptive responsiveness to dosing within various animal studies the result of which can be extrapolated for use in humans by those skilled in the art without undue experimentation” (bottom at page 4 of the Response) and, further, that information within Examples 1-4 fully satisfies the requirements of 35 USC 112, first paragraph. Applicant also refers to *In re Angstadt*, and *Gould v. Mossinghoff* (page 5 of the Response). Applicant’s review of the case law that has been cited and the holding that is found in that case law is not disputed. The only point of disagreement appears to be the interpretation of what constitutes undue experimentation with respect to recitation of “the psychophysiological effects of stress including anxiety”.

Claims 1, 3-6, 9 and 11-12, as amended, are drawn to a method for treating the psychophysiological effects of stress including anxiety by applying to the central nervous system a therapeutically effective amount of an inhibitor of the DP IV enzyme. According to the knowledge in the art, stress constitutes a complex physiological reaction, which includes changes in heart beat rate, volume of blood flow, blood sugar level, blood hormone level, affects liver and lung function as well as many other stress-related body responses (see Tobin and Dusheck, , 1998, *Asking about life*, Sanders College Publishing, p. 799, first column, for example). The instant specification, as filed, fails to provide a clear definition of “psychophysiological effects

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of stress including anxiety". Therefore, although the claimed method is not limited to certain parameters of effects of stress, with regard to claim breadth, the standard under 35 U.S.C. §112, first paragraph, entails the determination of what the claims recite and what the claims mean as a whole. In addition, when analyzing the enablement scope of the claims, the teachings of the specification are to be taken into account because the claims are to be given their broadest reasonable interpretation that is consistent with the specification. As such, the broadest reasonable interpretation of the claimed method is such that it allows treating any psychophysiological effect of stress, including therapy of plurality of disorders and conditions of different etiology recited in claim 3. The instant specification, as filed, fails to provide any guidance on how to practice the claimed method or how to extrapolate the information within limited working examples to all recited pathological conditions or treatment of effects of stress in general, thus, requiring undue experimentation for one skilled in the art in order to discover how to practice the instant invention.

One skilled in the art readily appreciates that to practice such a method would require knowledge of the route, duration and quantity of administration of an inhibitor of DP IV to a subject and this information is not provided by the instant specification. The text on pages pertaining to the Examples of the instant specification clearly fails to supply the guidance that would be needed by a routine practitioner. The instant specification has also failed to disclose how these parameters are to be determined, how a similar method was practiced in the art with a different agent or to provide even a single working example, prophetic or actual, of the claimed method. In the absence of this guidance a practitioner would have to resort to a substantial amount of undue experimentation involving the variation in the amount and duration of

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administration of an inhibitor of the instant invention and in determining a suitable route of administration. The instant situation is directly analogous to that which was addressed in *In re Colianni*, 195 U.S.P.Q. 150,(CCPA 1977), which held that a "[d]isclosure that calls for application of "sufficient" ultrasonic energy to practice claimed method of fusing bones but does not disclose what "sufficient" dosage of ultrasonic energy might be or how those skilled in the art might select appropriate intensity, frequency, and duration, and contains no specific examples or embodiment by way of illustration of how claimed method is to be practiced does not meet requirements of 35 U.S.C. 112 first paragraph".

The standard of an enabling disclosure is not the ability to make and test if the invention worked but one of the ability to make and use with a reasonable expectation of success. In the instant case, in view of the lack of teachings and unpredictability of the art set forth earlier, and also the absence of the working examples, the instant specification is not found to be enabling for a method for treating the psychophysiological effects of stress including anxiety by applying to the central nervous system a therapeutically effective amount of an inhibitor of the DP IV enzyme. It would require undue experimentation and making a substantial inventive contribution for the skilled artisan to discover how to use Applicants' invention as currently claimed.

Applicant is advised that the instant claims are rejected under 35 U.S.C. 112, first paragraph, for failing to provide enablement for the claimed invention, which is fundamentally different from the utility requirement. Therefore, Applicant's references pertained to the utility rejection under 35 U.S.C. 101 appear to be misplaced (page 5 of the Response).

7. Claims 1 and 2 stand rejected under 35 U.S.C. 112, second paragraph, as being indefinite for reasons of record in section 11 of Paper No. 7 and section 6 of Paper mailed on March 03,

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2004. Briefly, the claims use the term “DP IV – like enzyme”, which renders claims indefinite because it is not obvious, which enzymes are to be included or excluded by the limitation “like”.

Applicant argues that “DP-IV “like” enzyme activity is understood to mean where such inhibition will result in a reduction or delay in the decrease of the concentration of functionally active NPY (1-36)” (bottom at page 6 of the Response). These arguments have been fully considered but are not deemed persuasive because, as fully explained in the previous office action of record, it appears that any protease could be identified as a “DP IV – like enzyme” because it would cause cleavage and, consequently, inhibition of “functionally active NPY”.

8. Claim 2, as amended, is vague and indefinite for reasons of record in section 13 of Paper No. 7 and section 7 of Paper mailed on March 03, 2004. Briefly, the metes and bounds of the recitation “other substrates sharing similar properties as neuropeptide Y” cannot be determined from the claim. Applicant is advised that amendment to claim 2 to include recitation “for the treatment of psychophysiological effects of stress” did not obviate this ground of rejection.

9. Claim 2, as amended, is vague and ambiguous of for recitation “for the treatment of psychophysiological effects of stress”. Specifically, it is not clear if the recitation refers to the method or to “other substrates”, as appears to be implied by Applicant’s Reponse (see page 7, section B of the Response).

10. Claims 3-13 stand rejected under 35 U.S.C. 112, second paragraph for being dependent from indefinite claims.

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Claim Rejections - 35 USC § 102

11. Claims 2, 7-8, 10 and 13 stand rejected under 35 U.S.C. 102(b) as being anticipated by Powers et al. for reasons of record in section 18 of Paper No. 7 and in section 10 of Paper mailed on March 03, 2004.

Applicant traverses the rejection on the premises that “[u]nlike Applicant’s claimed invention, Powers is completely devoid of any disclosure of the use of DP-IV inhibitors for the treatment of central nervous system disorders such as anxiety” (section D on page 8 of the Response). This argument has been fully considered but is not persuasive because, as fully explained in the previous office actions of record, Powers discloses administration of inhibitors of dipeptidyl peptidase IV, such administration leads to the decrease of enzymatic activity of DPIV and, consequently, to the reduction of degradation of its natural endogenous substrate, absent evidence to the contrary. Applicant is reminded that claim 2 is an independent claim and that claims 2, 7-8, 10 and 13 are directed to a method for reducing degradation of NPY and not to the “treatment of central nervous system disorders such as anxiety”, which appears to be a new inventive concept not previously presented within the instant specification including claims, as filed.

12. Claims 1, 3-6, 9 and 11-12 stand rejected under 35 U.S.C. 102(b) as being anticipated by Powers et al. for reasons of record in section 19 of Paper No. 7 and in section 11 of Paper mailed on March 03, 2004.

Applicant further argues that “Powers does not disclose the “treatment of psychophysiological effects of stress” resulting from central nervous system disorders such as

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anxiety using an inhibitor of DP IV” (section F at page 11 of the Response). Applicant’s arguments have been fully considered but are not deemed to be persuasive because administration of a therapeutically effective amount of an inhibitor of the DPIV enzyme is known and fully disclosed in prior art by publication of Powers. Therefore, because the document of Powers fully discloses the step of administration of DPIV inhibitors, the results of the same procedure are reasonably expected to be the same, and, consequently, such administration of DPIV inhibitors would lead to treatment of “psychophysiological effects of stress”. In the decision *Ex parte Novitski*, 26 USPQ2d 1389 (Bd. Pat. App. & Inter. 1993) the court held that the discovery of an inherent property of a prior art process cannot serve as a basis for patenting that process. Therefore, Powers et al. anticipate claims 1, 3-6 and 11-12 of the instant invention.

Applicant’s arguments with respect to the number of references cited in the instant rejection (bottom at page 9 continuing to page 10 of the Response) was fully answered in the previous communication of record, see section 11 of Paper mailed on March 03, 2004.

13. Claims 1-13 stand rejected under 35 U.S.C. 102(e) as being anticipated by Demuth et al., for those reasons of record in section 20 of Paper No. 7 and in section 12 of Paper mailed on March 03, 2004.

Applicant submits that “Demuth ‘893 is completely devoid of any disclosure related to DP-IV inhibitors for the treatment of central nervous system disorders through the use of DP IV inhibitors”. This argument is not considered to be persuasive for reasons fully explained in previous office action of Paper No. 7 and in Paper mailed on March 03, 2004 and reasons of record in sections of the instant office action. Briefly, Demuth et al. describe administration to

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the mammal a therapeutically effective amount of an inhibitor of DPIV. The instant claims encompass the same procedure, such as administration of an inhibitor of DPIV. One would reasonably conclude that the results of the same procedure are expected to be the same, regardless of the disclosure of every effect of such procedure. Therefore, the discovery of the inherent property of inhibitors of DPIV enzymes as modulators of "psychophysiological effects" of stress cannot serve as a patentably distinguishing feature of the instant invention. (See *Ex parte Novitski*, 26 USPQ2d 1389 (Bd. Pat. App. & Inter. 1993))

Double Patenting

14. Claims 1-13 stand rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-4 of U.S. Patent No. 6,319,893 for reasons of record in section 22 of Paper No. 7 and in section 13 of Paper mailed on March 03, 2004.

Conclusion

15. No claim is allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Olga N. Chernyshev whose telephone number is (571) 272-0870. The examiner can normally be reached on 8:00 AM to 5:00 PM.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brenda G. Brumback can be reached on (571) 272-0961. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Certain papers related to this application may be submitted to Technology Center 1600 by facsimile transmission. Papers should be faxed to Technology Center 1600 via the PTO Fax center located in Crystal Mall 1 (CM1). The faxing of such papers must conform with the notices published in the Official Gazette, 1156 OG 61 (November 16, 1993) and 1157 OG 94 (December 28, 1993) (see 37 C.F.R. § 1.6(d)). NOTE: If Applicant *does* submit a paper by fax, the original signed copy should be retained by Applicant or Applicant's representative. NO DUPLICATE COPIES SHOULD BE SUBMITTED so as to avoid the processing of duplicate papers.

Official papers filed by fax should be directed to (703) 872-9306. If this number is out of service, please call the Group receptionist for an alternative number. Faxed draft or informal communications with the examiner should be directed to (571) 273-0870. Official papers should NOT be faxed to (571) 273-0870.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Olga N. Chernyshev, Ph.D.
Primary Examiner
Art Unit 1646

December 22, 2004